In re Patent Application of:
VIGIL ET AL.
Serial No. **09/840,481**
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In the Claims:

Claims 1-24 (Cancelled).

25. (Previously Presented) A method for mitigating multipath in a digital television signal (DTV) comprising:

multiplexing reference data with DTV data to generate a multiplexed DTV data stream;

modulating the multiplexed DTV data stream for transmission;

receiving a transmitted DTV signal;

detecting correlation peaks in the received DTV signal based upon the multiplexed reference data; and

using the detected correlation peaks to mitigate multipath in the received DTV signal.

26. (Previously Presented) A method according to Claim 25 wherein the transmitted DTV signal includes a training sequence defined by the reference data.

27. (Previously Presented) A method according to Claim 25 wherein the reference data is ATSC DTV compliant.

28. (Previously Presented) A method according to Claim 25 wherein the reference data is based upon a priori knowledge of the DTV data.

29. (Previously Presented) A method according to Claim 28 wherein the a priori knowledge includes modulation characteristics of the DTV data.

30. (Previously Presented) A method according to Claim 29 further comprising estimating the modulation characteristics of the DTV data.

31. (Previously Presented) A method for mitigating multipath in a digital television signal (DTV) comprising:

estimating modulation characteristics of DTV data to be transmitted;

determining reference data based upon the estimated modulation characteristics of the DTV data;

multiplexing the reference data with the DTV data to generate a multiplexed DTV data stream; and

modulating the multiplexed DTV data stream for transmission.

32. (Previously Presented) A method according to Claim 31 further comprising:

receiving a transmitted DTV signal;

detecting correlation peaks in the received DTV signal based upon the multiplexed reference data; and

using the detected correlation peaks to mitigate multipath in the received DTV signal.

33. (Previously Presented) A method according to Claim 32 wherein the transmitted DTV signal includes a training sequence defined by the reference data.

34. (Previously Presented) A method according to Claim 31 wherein the reference data is ATSC DTV compliant.

35. (Previously Presented) A digital television (DTV) system comprising:

a transmitting system comprising

a multiplexer for multiplexing reference data with DTV data to generate a multiplexed DTV data stream,

a modulator connected to said multiplexer for modulating the multiplexed DTV data stream, and

a transmitter connected to said modulator for transmitting a DTV signal based upon the multiplexed DTV data stream; and

a receiving system for receiving the transmitted DTV signal and comprising a correlator for detecting correlation peaks in the received DTV signal based upon the multiplexed reference data, and using the detected correlation peaks to mitigate multipath in the received DTV signal.

36. (Previously Presented) A DTV system according to Claim 35 wherein the transmitted DTV signal includes a training sequence defined by the reference data.

37. (Previously Presented) A DTV system according to Claim 35 wherein the reference data is ATSC DTV compliant.

38. (Previously Presented) A DTV system according to Claim 35 wherein the reference data is based upon a priori knowledge of the DTV data.

39. (Previously Presented) A DTV system according to Claim 38 wherein the a priori knowledge includes modulation characteristics of the DTV data.

40. (Previously Presented) A DTV system according to Claim 39 wherein said multiplexer comprises an estimator for estimating the modulation characteristics of the DTV data.

41. (Previously Presented) A DTV system according to Claim 35 wherein said receiving system comprises a digital television.

42. (Previously Presented) A digital television (DTV) comprising:

an input for receiving a transmitted DTV signal comprising reference data and DTV data that was multiplexed before being modulated for transmission; and

a correlator for detecting correlation peaks in the received DTV signal based upon the multiplexed reference data, and using the detected correlation peaks to mitigate multipath in the received DTV signal.

43. (Previously Presented) A DTV according to Claim 42 further comprising a demodulator connected to said correlator for demodulating the received DTV signal.

44. (Previously Presented) A DTV according to Claim 42 wherein the received DTV signal includes a training sequence defined by the reference data.

45. (Previously Presented) A DTV according to Claim 42 wherein the reference data is ATSC DTV compliant.

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46. (Previously Presented) A DTV according to Claim 42 wherein the reference data is based upon a priori knowledge of the DTV data.

47. (Previously Presented) A DTV according to Claim 46 wherein the a priori knowledge includes modulation characteristics of the DTV data.